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a belt structure between the carcass and the tread band;
wherein the tread band comprises grooves on a surface of the tread band;
wherein the tread band is disposed in a radially-outer position relative to the carcass;
wherein a fiber-reinforced elastomeric intermediate layer is disposed between the belt structure and the tread band,
wherein the elastomeric intermediate layer comprises, in cross-section, two edge portions thicker than a central portion,
wherein each edge portion comprises substantially-constant thickness,
wherein the edge portions are both greater than or equal to about 25% thicker than the central portion, and
wherein the edge portions are both less than or equal to about 75% thicker than the central portion.

15. (twice amended) The tire of claim 14, wherein the edge portions are both about 33% thicker than the central portion.

16. (twice amended) A pneumatic tire for a vehicle wheel, comprising:

a carcass;

a tread band;

sidewalls;

beads for anchoring the tire on a rim of the wheel; and

a belt structure between the carcass and the tread band;

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wherein the tread band comprises grooves on a surface of the tread band;
wherein the tread band is disposed in a radially-outer position relative to the carcass;
wherein a fiber-reinforced elastomeric intermediate layer is disposed between the belt structure and the tread band,
wherein the elastomeric intermediate layer comprises, in cross-section, two edge portions thicker than a central portion,
wherein the elastomeric intermediate layer comprises a width,
wherein the edge portions each comprise about 2/7ths of the width, and
wherein the central portion comprises a remaining about 3/7ths of the width.

Add new claims 25-92, as follows:

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--25. (new) The tire of claim 14, wherein the elastomeric intermediate layer comprises a compound material and short reinforcing fibers.

26. (new) The tire of claim 15, wherein the short reinforcing fibers comprise an aramid polymer.

27. (new) The tire of claim 15, wherein the short reinforcing fibers are oriented at an angle of substantially 0° with respect to an equatorial plane of the tire.

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28. (new) The tire of claim 15, wherein the compound material comprises one or more of natural rubber, isoprene rubber, emulsion-polymerized styrene butadiene rubber, solution polymerized styrene butadiene rubber, and butadiene rubber.

29. (new) The tire of claim 15, wherein a concentration of the short reinforcing fibers in the compound material is greater than or equal to about 5 phr and less than or equal to about 15 phr.

30. (new) The tire of claim 15, wherein a concentration of the short reinforcing fibers in the compound material is greater than or equal to about 7 phr and less than or equal to about 11 phr.

31. (new) The tire of claim 14, wherein the intermediate layer is incorporated into the tread band.

32. (new) The tire of claim 15, wherein the compound material comprises greater than about 50% natural rubber.

33. (new) The tire of claim 15, wherein the compound material comprises a concentration of carbon black greater than or equal to about 20 phr and less than or equal to about 80 phr.

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34. (new) The tire of claim 14, wherein the belt structure comprises at least one layer of rubberized fabric comprising cords,

wherein the cords crisscross each other, and

wherein the cords are angled with respect to an equatorial plane of the tire.

35. (new) The tire of claim 14, wherein the tire does not include a layer of rubberized fabric with longitudinal reinforcing cords lying at an angle of substantially 0° with respect to an equatorial plane of the tire.

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36. (new) The tire of claim 14, wherein the tire excludes one or more of a rubber sheet, a zero-degree layer, and an underlayer.

37. (new) The tire of claim 14, wherein the elastomeric intermediate layer is an only layer placed between the belt structure and the tread band.

38. (new) The tire of claim 16, wherein the elastomeric intermediate layer comprises a compound material and short reinforcing fibers.

39. (new) The tire of claim 38, wherein the short reinforcing fibers comprise an aramid polymer.

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40. (new) The tire of claim 38, wherein the short reinforcing fibers are oriented at an angle of substantially 0° with respect to an equatorial plane of the tire.

41. (new) The tire of claim 38, wherein the compound material comprises one or more of natural rubber, isoprene rubber, emulsion-polymerized styrene butadiene rubber, solution polymerized styrene butadiene rubber, and butadiene rubber.

42. (new) The tire of claim 38, wherein a concentration of the short reinforcing fibers in the compound material is greater than or equal to about 5 phr and less than or equal to about 15 phr.

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43. (new) The tire of claim 38, wherein a concentration of the short reinforcing fibers in the compound material is greater than or equal to about 7 phr and less than or equal to about 11 phr.

44. (new) The tire of claim 16, wherein the intermediate layer is incorporated into the tread band.

45. (new) The tire of claim 38, wherein the compound material comprises greater than about 50% natural rubber.

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46. (new) The tire of claim 38, wherein the compound material comprises a concentration of carbon black greater than or equal to about 20 phr and less than or equal to about 80 phr.

47. (new) The tire of claim 16, wherein the belt structure comprises at least one layer of rubberized fabric comprising cords,

wherein the cords crisscross each other, and

wherein the cords are angled with respect to an equatorial plane of the tire.

48. (new) The tire of claim 16, wherein the tire does not include a layer of rubberized fabric with longitudinal reinforcing cords lying at an angle of substantially 0° with respect to an equatorial plane of the tire.

49. (new) The tire of claim 16, wherein the tire excludes one or more of a rubber sheet, a zero-degree layer, and an underlayer.

50. (new) The tire of claim 16, wherein the elastomeric intermediate layer is an only layer placed between the belt structure and the tread band.

51. (new) A pneumatic tire for a vehicle wheel, comprising:

a carcass;

a tread band;

sidewalls;
beads for anchoring the tire on a rim of the wheel; and
a belt structure between the carcass and the tread band;
wherein the tread band comprises grooves on a surface of the tread band;
wherein the tread band is disposed in a radially-outer position relative to the carcass;
wherein a fiber-reinforced elastomeric intermediate layer is disposed between the belt
structure and the tread band, and
wherein the elastomeric intermediate layer comprises cross-linking resin.

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52. (new) The tire of claim 51, wherein the cross-linking resin comprises resorcinol-formaldehyde resin.

53. (new) The tire of claim 51, wherein the cross-linking resin comprises resorcinol-formaldehyde resin with aromatic polyamidic fibers.

54. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises short fibers.

55. (new) The tire of claim 54, wherein the short fibers comprise aramid fibers.

56. (new) The tire of claim 55, wherein the aramid fibers comprise Kevlar® fibers, Twaron® fibers, or Kevlar® fibers and Twaron® fibers.

57. (new) The tire of claim 54, wherein the short fibers comprise fibers made from an aramid polymer.

58. (new) The tire of claim 54, wherein the short fibers comprise an aramid polymer.

59. (new) The tire of claim 54, wherein the short fibers comprise numerous branches or fibrils extending outwardly from a trunk portion.

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60. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises a compound material.

61. (new) The tire of claim 60, wherein the compound material comprises one or more of natural rubber, isoprene rubber, emulsion-polymerized styrene butadiene rubber, solution polymerized styrene butadiene rubber, and butadiene rubber.

62. (new) The tire of claim 60, wherein the compound material comprises greater than about 50% natural rubber.

63. (new) The tire of claim 60, wherein the elastomeric intermediate layer further comprises short fibers, and

wherein a concentration of the short fibers in the compound material is greater than or equal to about 5 phr and less than or equal to about 15 phr.

64. (new) The tire of claim 60, wherein the elastomeric intermediate layer further comprises short fibers, and

wherein a concentration of the short fibers in the compound material is greater than or equal to about 7 phr and less than or equal to about 11 phr.

65. (new) The tire of claim 60, wherein the elastomeric intermediate layer further comprises short fibers, and

wherein a concentration of the short fibers in the compound material is about 9 phr.

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66. (new) The tire of claim 54, wherein the short fibers are oriented substantially parallel to an equatorial plane of the tire.

67. (new) The tire of claim 54, wherein the short fibers are oriented at an angle of substantially 0° relative to an equatorial plane of the tire.

68. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises carbon black.

69. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises carbon black in an amount greater than or equal to about 20 phr and less than or equal to about 80 phr.

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70. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises carbon black in an amount greater than or equal to about 50 phr and less than or equal to about 70 phr.

71. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises a thickness greater than 1 mm.

72. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises a thickness greater than or equal to about 1.5 mm and less than or equal to about 3.0 mm.

73. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises a thickness greater than or equal to about 1.5 mm and less than or equal to about 2.0 mm.

74. (new) The tire of claim 51, wherein the elastomeric intermediate layer further comprises, in cross-section, two edge portions thicker than a central portion.

75. (new) The tire of claim 74, wherein each edge portion comprises substantially-constant thickness, and

wherein the edge portions are both between about 25% to 75% thicker than the central portion.

76. (new) The tire of claim 74, wherein each edge portion comprises substantially-constant thickness, and

wherein the edge portions are both about 33% thicker than the central portion.

77. (new) The tire of claim 74, wherein the elastomeric intermediate layer further comprises a width,

wherein the edge portions each comprise about 2/7ths of the width, and

wherein the central portion comprises a remaining about 3/7ths of the width.

78. (new) The tire of claim 51, wherein the elastomeric intermediate layer is incorporated into the tread band.

79. (new) The tire of claim 51, wherein the belt structure comprises at least two layers of rubberized fabric,

wherein the at least two layers of rubberized fabric comprise cords,

wherein the cords in a first layer of rubberized fabric are angled relative to an equatorial plane of the tire,

wherein the cords in a second layer of rubberized fabric are angled relative to the equatorial plane of the tire, and

wherein the cords in the first layer crisscross the cords in the second layer.

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80. (new) The tire of claim 51, wherein the tire does not include a layer of rubberized fabric, between the belt structure and the tread band, with longitudinal reinforcing cords lying at an angle of substantially 0° with respect to an equatorial plane of the tire.

81. (new) The tire of claim 51, wherein the tire excludes, between the belt structure and the tread band, a zero-degree layer, a tread underlayer, or a zero-degree layer and a tread underlayer.

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82. (new) The tire of claim 51, wherein the tire excludes a rubber sheet on an underside of the tread band or on an underside of an underlayer of the tread band.

83. (new) The tire of claim 51, wherein the elastomeric intermediate layer is an only layer disposed between the belt structure and the tread band.

84. (new) A method of manufacturing a tire, comprising:
providing at least one belted layer;
disposing a fiber-reinforced elastomeric intermediate layer on a surface of the at least one belted layer; and
disposing a tread band on a surface of the elastomeric intermediate layer so that the elastomeric material layer is between the tread band and the at least one belted layer;
wherein the elastomeric intermediate layer comprises cross-linking resin.

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85. (new) The method of claim 84, wherein the method excludes, between the at least one belted layer and the tread band, incorporation of a zero-degree layer, a tread underlayer, or a zero-degree layer and a tread underlayer.

86. (new) The method of claim 84, wherein the method excludes incorporation of a rubber sheet on an underside of the tread band or on an underside of a tread underlayer.

87. (new) A method of manufacturing a tire, comprising:
providing at least one belted layer;
extruding a tread band together with a fiber-reinforced elastomeric intermediate layer to form a co-extruded product; and
disposing the co-extruded product on a surface of the at least one belted layer so that the elastomeric material layer is between the tread band and the at least one belted layer;
wherein the elastomeric intermediate layer comprises cross-linking resin.

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88. (new) The method of claim 87, wherein the method excludes, between the belt structure and the tread band, incorporation of a zero-degree layer, a tread underlayer, or a zero-degree layer and a tread underlayer.

89. (new) The method of claim 87, wherein the method excludes incorporation of a rubber sheet on an underside of the tread band or on an underside of a tread underlayer.

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90. (new) A pneumatic tire for a vehicle wheel, comprising:

a carcass;

a tread band;

sidewalls;

beads for anchoring the tire on a rim of the wheel; and

a belt structure between the carcass and the tread band;

wherein the tread band comprises grooves on a surface of the tread band;

wherein the tread band is disposed in a radially-outer position relative to the carcass;

wherein a fiber-reinforced elastomeric intermediate layer is disposed between the belt structure and the tread band,

wherein the elastomeric intermediate layer comprises short fibers,

wherein the short fibers comprise a trunk portion comprising length and diameter, and

wherein a ratio of the length to the diameter is about 20:1.

91. (new) A method of manufacturing a tire, comprising:

providing at least one belted layer;

disposing a fiber-reinforced elastomeric intermediate layer on a surface of the at least one belted layer; and

disposing a tread band on a surface of the elastomeric intermediate layer so that the elastomeric material layer is between the tread band and the at least one belted layer;

wherein the elastomeric intermediate layer comprises short fibers,

wherein the short fibers comprise a trunk portion comprising length and diameter, and

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wherein a ratio of the length to the diameter is about 20:1.

92. (new) A method of manufacturing a tire, comprising:
providing at least one belted layer;
extruding a tread band together with a fiber-reinforced elastomeric intermediate layer to form a co-extruded product; and
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disposing the co-extruded product on a surface of the at least one belted layer so that the elastomeric material layer is between the tread band and the at least one belted layer;
wherein the elastomeric intermediate layer comprises short fibers,
wherein the short fibers comprise a trunk portion comprising length and diameter, and
wherein a ratio of the length to the diameter is about 20:1---

REMARKS

Applicants submit this Amendment, accompanied by an Appendix to Amendment, a Supplemental Information Disclosure Statement Under 37 C.F.R. § 1.97(c), and a Petition for Extension of Time, in response to the Office Action mailed November 5, 2002.

In this Amendment, Applicants amend the title and specification. Applicants also cancel, without prejudice or disclaimer, claims 1-13 and 17-24. Additionally, Applicants amend claims 14-16 and add new claims 25-92 to more appropriately define the claimed invention and improve clarity.

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